GENERALIZED FEM USING MESH-BASED HANDBOOKS: APPLICATION TO PROBLEMS SET IN DOMAINS WITH A LARGE NUMBER OF VOIDS, INCLUSIONS, AND CRACKS

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This paper describes a new version of the GFEM, developed by Strouboulis, Copps and Babuska [1–4] which employs mesh-based handbooks and is well suited for problems in domains with a large number of closely spaced features. The main idea is to employ handbook functions constructed on subdomains resulting from the mesh-discretization of the problem domain. Here we focus in the *Phandbook*-version of the method and show that it is capable of achieving very high accuracy through exponential convergence for meshes which are rather coarse with respect to the features (see [5]).

References

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